

Work Order ID 85361

85361

Page 1

June-06-12 4:23:08 PM

Item ID: D206-642-541

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/06/07 Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3274

D

100

0.00

100

DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

N/A

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Other <input type="checkbox"/> </div> <div> Engineering Quality <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Offset/Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unauthorized <input type="checkbox"/>											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	Hardware <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong Drill Holes <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	General <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material	<input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____

Work Order ID 85361

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Page 2

June-06-12 4:23:08 PM

Item ID: D206-642-541

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00

110

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

VERIFY AND INSPECT THE MATERIAL PRIOR TO USE

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and OSI004

AR Aluminum Rod Batch: m120164

4- grind fwd cap weld on top surface only

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DP

12-7-11

CF 12-7-13

BE 1207-16

De 12/02/16

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Other <input type="checkbox"/> </div> <div> Engineering Quality <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Offset/Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unauthorized <input type="checkbox"/>											

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	Hardware <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong Drill Holes <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	General <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____

85361

June-06-12 4:23:08 PM

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 06/06/2012 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 15/06/2012 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

[illegible]

Work Order ID 85361

85361

Page 4

June-06-12 4:23:08 PM

Item ID: D206-642-541

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC7-Inspect Chemical Conversion Coat

0.00

130

QC

Memo

0.00

Quality Control

DP 12-7-17

150

0.00

150

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015.

A/RSikaflex-291 / ~~12/07/17~~

Sikaflex expire date: ~~12/07/17~~ 12

Start: 12/07/17 Time: 10:05

Finish: 12/07/17 Time: 11:00

(Adhere for 12 hours)

M122130

13-4-14

12-7-17

Work Order ID 85361***85361***

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June-06-12 4:23:08 PM

Item ID: D206-642-541

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00

160

QC

Memo

0.00

Quality Control

DP 12-7-18

170

Skidtubes

0.00

170

Skidtubes

Memo

0.00

Skidtubes

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

→ CF 12-7-18

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2
OPEN HOLES TO .297" . Deburr3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD
END OF TUBE
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

De 12/02/19

Work Order ID 85361

85361

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June-06-12 4:23:08 PM

Item ID: D206-642-541

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00

3.0"
4.6"

1

0

12/6/25

DAS
18

180

QC

Memo

0.00

Quality Control

190

Skidtubes

0.00

190

Skidtubes

Memo

0.00

Skidtubes

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod M122324

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

BE 12/07/25
CF

12-7-25

DD 12-7-26

NCR: ☒ Yes ☐ No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: AD Date: 12/08/17QA Closed: AD Date: 12/08/20

Work Order: <u>85361</u> Part No. <u>D206-642-541</u> NCR No. <u>12-1696</u>				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input checked="" type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
--	--	--	--	--	--	--	--	--	--	--	--

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>	12/07/21	# 190.4	x1	Found at inspection that the counter bore are too deep. Measure 0.820-0.840 should be 0.75 \pm 0.030 E.C. employee didn't check setting for counter bore correctly. LQA	 12/1/21	Acceptable per Attached Email From CP bds on July 27th, 2012. See attached.	 12-7-21	 12/07/20	 12/9/27
Equip/Tooling <input checked="" type="checkbox"/>									
Operator <input checked="" type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input checked="" type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Linda Lacelle

From: Chris Provencal <cprovencal@dartaero.com>
Sent: July-27-12 11:15 AM
To: David Shepherd
Cc: psmith@dartaero.com; 'L Lacelle'; 'Isam El-Kassis'; 'Eric Downing'; Mike Petsche
Subject: RE: D206 skids

David,

The affected tubes are several float (-541) and regular tubes (-351). The float holes aren't counterbored and are unaffected. As the crossbolt spacers are not loaded except in bearing by the bushings, the additional length of the counterbore would have no effect on the strength of the crossbolt spacer from regular loading conditions. There would be a small reduction in buckling strength from sideways crushing loads, which doesn't represent a critical loading condition per the FAR requirements.

I will accept these tubes based on that rational. This email is an FYI in case you have an objection.

-Chris

From: Eric Downing [<mailto:edowning@dartaero.com>]
Sent: Friday, July 27, 2012 8:34 AM
To: 'Provencal, Chris'
Cc: psmith@dartaero.com; 'L Lacelle'; Isam El-Kassis
Subject: D206 skids
Importance: High

Good morning Chris

I need to see you as soon as you read this message I have found the counter bore depth on QTYX9 D206 skids are too deep. I am measuring 0.820"-0.830" and it should be at 0.75+/-0.030". I have 6 in progress and 3 already painted and assembled. What happened was that I had inspected some 206 skids and found that the counter bore was correct but I didn't know that they had changed the counter bore part way through the day and was not set up correctly so I had assumed that they were still the same depth and when I measured the first one today like I do always the depth was not correct at all.

I need to know if this will be acceptable or that we need to rework all the skids.

Thanks
Eric Downing
QC Corrdinator
Dart Aerospace LTD

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

Work Order ID 85361

85361

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June-06-12 4:23:08 PM

Item ID: D206-642-541

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Replacement Skidtube

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

QC5- Inspect part completeness to step on W/O

0.00

200

QC

Memo

0.00

Quality Control

210

QC10- Inspect visual per QSI004- ground welds

0.00

210

QC

Memo

0.00

Quality Control

220

Pressure Wash per QSI005 4.3

0.00

220

HandFinish

Memo

0.00

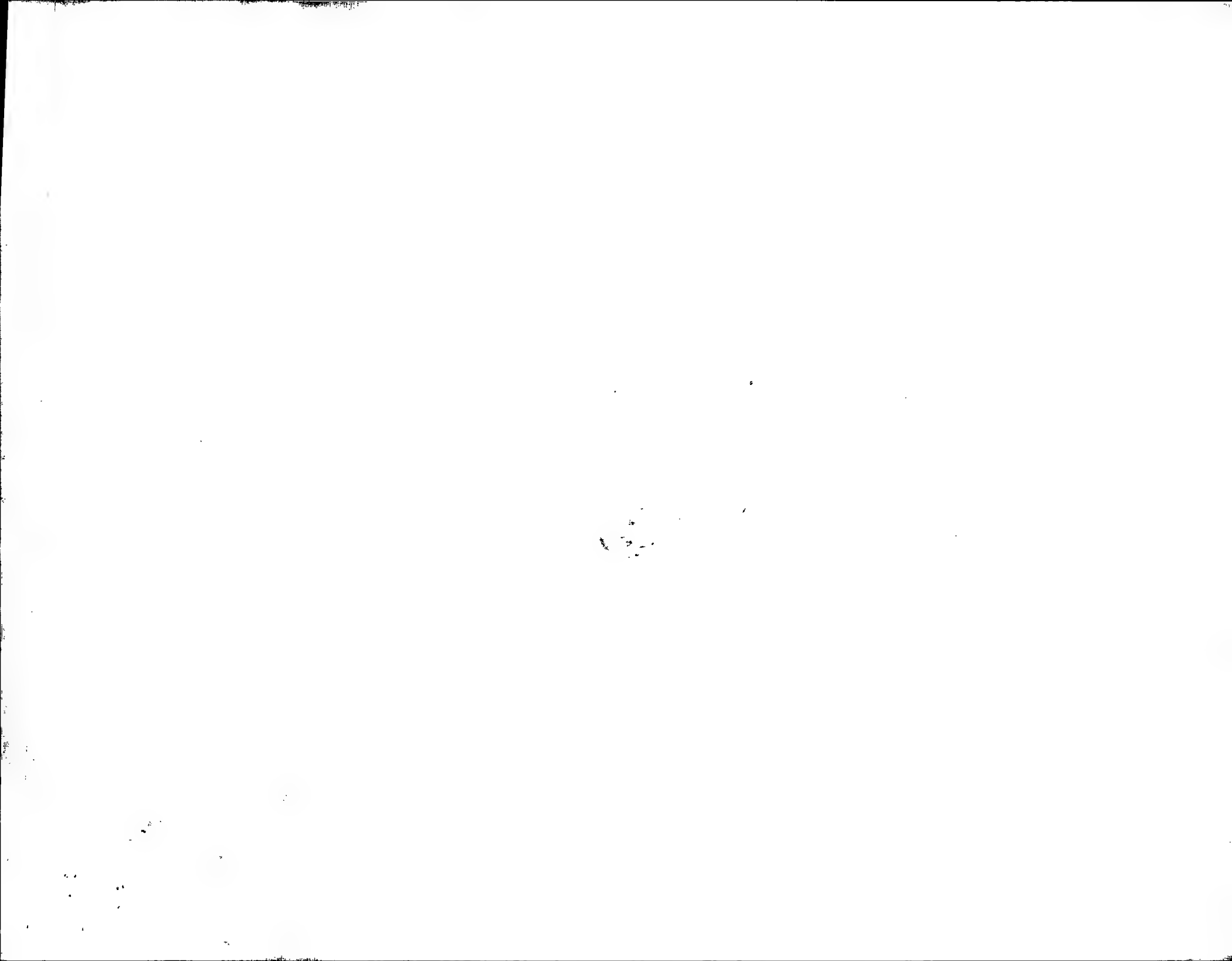
Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch



FW

1 16 12-7-30



Work Order ID 85361

85361

Page 8

June-06-12 4:23:08 PM

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Accept

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Setup Start ***NS1***

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Item Name: Replacement Skidtube

Start Date: 06/06/2012 Start Qty: 1.00

1

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Required Date: 15/06/2012 Req'd Qty: 1.00

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

230

Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

240

QC3- Inspect Part Finish

0.00

240

QC

Quality Control

Memo

0.00

250

HandFinishing

0.00

250

HandFinish

Hand Finishing

Memo

1-Install Nut Plate as per Dwg D3274. Apply LPS-PROCYON to Nut Plate and rivets.

A/RN/ALPS-PROCYON 114596

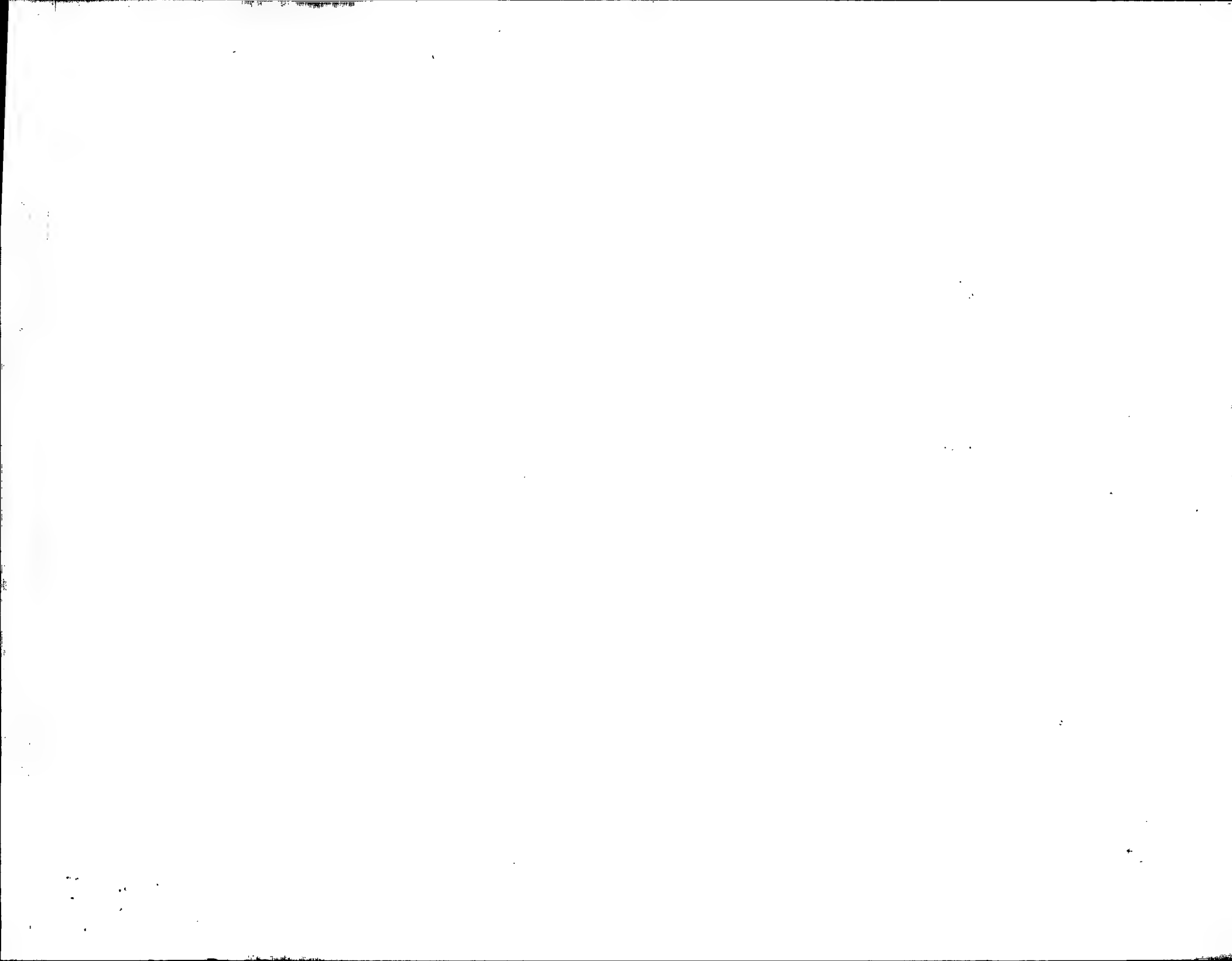
2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/RSikaflex-291 12213

Sikaflex expire date: 14/03

1X 12/07/30

1 2P 12/08/01

1 2P 12/08/01



Work Order ID 85361

85361

Page 9

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Item ID: D206-642-541

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube

Stop *NS2*

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

260

QC5- Inspect part completeness to step on W/O

0.00

260

QC

Memo

0.00

Quality Control

Inspect Nut Plate & Inserts

270

HAND FINISHING RESOURCE #1

0.00

270

HandFinish

Memo

0.00

Hand Finishing

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/RSikaflex-291 122130

Sikaflex expire date: 14/03

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: 21/14

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/RSikaflex-291 122130

Sikaflex expire date: 14/03

Procyon 114596

Work Order ID 85361

85361

Page 10

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Item ID: D206-642-541

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube

Stop *NS2*

Start Date: 06/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 15/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

280

QC5- Inspect part completeness to step on W/O

0.00

280

QC

Memo

Quality Control

0.00

290

Identify as per dwg & Stock Location: _____

0.00

290

Packaging

Memo

Packaging

0.00

300

QC21- Final Inspection - Work Order Release

0.00

300

QC

Memo

Quality Control

0.00

NLS 12/08/14

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Page 1

Work Order ID: 85361

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

85361

D206-642-541

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:B05.09.23 Revised per D206-642 Rev. JKJ/JLM
IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC
IPP Rev:F 08-06-02 add comment DD verified by:EC
IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-1-190

Manufactured No

110

Each

106.0000

1

1

D2600-1-190

Extrusion Round 3" 206

**

DC 12/07/11

Location

Loc Qty

Loc Code

HALL

45

69622

45

LG

61

76912

61

D3285-1

Manufactured No

110

Each

42.0000

1

1

D3285-1

Cap

**

BE 12-07-16

Location

Loc Qty

Loc Code

LG002

42

52511

1

52647

41

D3282-041

Manufactured No

150

Each

9.0000

1

1

D3282-041

Float Web (206L/407)

**

DC 12/07/17

Location

Loc Qty

Loc Code

LG

9

82651

9

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Other <input type="checkbox"/> </div> <div> Engineering Quality <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Offset/Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unauthorized <input type="checkbox"/>											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	Hardware <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong Drill Holes <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	General <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material	<input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____

Picklist Print

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Page 2

Work Order ID: 85361

85361

Parent Item: D206-642-541

D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190

Each

379.0000

12

12

D2649

Cross Bolt Spacer

**

BE 12/07/25
B 86912 *12

Location

Loc Qty

Loc Code

LG

236

77574

2

79502

8

79503

215

79564

4

79565

7

LG001

143

65317

1

68224

2

68507

11

71355

2

72704

2

72841

11

73390

8

73857

21

73858

53

73859

4

73860

4

78020

6

78583

2

79566

16

D3275-1

Manufactured No

190

Each

65.0000

12

12

D3275-1

Crossbolt Spacer

**

BE 12/07/25
B 85418 *12

Location

Loc Qty

Loc Code

LG002

65

66930

1

83264

64

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Shop Packet Print

Page 2

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Other <input type="checkbox"/> </div> <div> Engineering Quality <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Offset/Setup											
Other											
Process											
Supplier											
Training											
Unauthorized											

FAULT CATEGORY									
Landing Gear			Hardware			General			
<input type="checkbox"/> Bending Passes Below Min	<input type="checkbox"/> Breaking	<input type="checkbox"/> Burrs	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Set-up					
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> Missing	<input type="checkbox"/> Contamination	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Supplier					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Size/Length	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Off-Set	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Crushed/Crimp at Bending	<input type="checkbox"/> Spinning	<input type="checkbox"/> Documentation/Data	<input type="checkbox"/> Orientation Misread	<input type="checkbox"/> Weld					
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Threading	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Other	<input type="checkbox"/> Wrong	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Other					
<input type="checkbox"/> Positioned Wrong		<input type="checkbox"/> Inspection Unqualified	<input type="checkbox"/> Outside Dimensions						
<input type="checkbox"/> Ripples on Inner Bend	Drill Holes	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Over/Under tolerance						
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Misaligned	<input type="checkbox"/> Jigs/Fixtures/Tooling	<input type="checkbox"/> Part Lost						
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Kit Incorrect	<input type="checkbox"/> Part Moved						
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Over/Undersized	<input type="checkbox"/> Kit Missing	<input type="checkbox"/> Raw Material						
	<input type="checkbox"/> Too Many								

Picklist Print

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Page 3

Work Order ID: 85361

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

85361

D206-642-541

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-03

Purchased

No

250

Each

1.276.000

2

2

CR3212-4-03

Cherry Rivet

**

2

28

12/08/01

Location

Loc Qty

Loc Code

FP002

348

114859 ✓

348

ST331

928

110139

2

119017

926

D3415-041

Manufactured

No

250

Each

32.0000

1

1

D3415-041

Nut Plate

**

1

28

12/08/01

Location

Loc Qty

Loc Code

ST042

32

67605

1

82151 ✓

31

CCR264SS3-3

Purchased

No

250

Each

346.0000

2

2

CCR264SS3-3

Cherry Rivet

**

2

28

12/08/01

Location

Loc Qty

Loc Code

ST331

346

113973

2

117849 ✓

79

119017

265

Picklist Print

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Page 4

Work Order ID: 85361

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

85361

D206-642-541

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

250

Each

2,185.000

78

78

AI S4-1032-130

Insert

**

78

(2A)

12/08/01

Location

Loc Qty

Loc Code

ST280

122474

205

119084

116

120671

89

ST281

74

120807

36

120837

38

ST282

1906

121269

1906

D3536-15

Manufactured

No

270

Each

6.0000

1

1

D3536-15

Gasket

**

1

(SP)

12/08/01

Location

Loc Qty

Loc Code

FP002

85604V

6

73318

4

81343

2

D3536-23

Manufactured

No

270

Each

4.0000

1

1

D3536-23

Gasket

**

1

(SP)

12/08/01

Location

Loc Qty

Loc Code

FP002

4

74510

1

83377

3

85295

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Shop Packet Print

Page 4

Picklist Print

June-06-12 4:23:13 PM

Page 5

Work Order ID: 85361

85361

Parent Item: D206-642-541

D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3536-35

Manufactured No

270 Each

16.0000 1 1

D3536-35

Gasket

**

1 (SP) 12/08/01

Location

Loc Qty

Loc Code

FP002 85605 ✓ 16
81340 5
82065 11

D3536-39

Manufactured No

270 Each

10.0000 1 1

D3536-39

Gasket

**

1 (SP) 12/08/01

Location

Loc Qty

Loc Code

FP 9
82252 ✓ 9
FP002 1
73317 1

D3535-15

Manufactured No

270 Each

3.0000 1 1

D3535-15

Wearshoe

**

1 (SP) 12/08/01

Location

Loc Qty

Loc Code

FP001 3
80328 1
81354 2
85291 ✓

Picklist Print

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Page 6

Work Order ID: 85361

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

85361

D206-642-541

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3535-35

Manufactured No

270

Each

29.0000

1

1

D3535-35

Wearshoe

**

1 28 12/08/01

Location

Loc Qty

Loc Code

FP001

29

67598

1

70815

1

78873

13

79849

1

82064

1

83638 ✓

12

D3535-39

Manufactured No

270

Each

22.0000

1

1

D3535-39

Wearshoe

**

1 28 12/08/01

Location

Loc Qty

Loc Code

FP001

22

69759

1

74513

3

81359 ✓

18

D3535-23

Manufactured No

270

Each

9.0000

1

1

D3535-23

Wearshoe

**

1 28 12/08/01

Location

Loc Qty

Loc Code

FP001

9

81355

1

83375

8

85256 ✓

Picklist Print

June-06-12 4:23:13 PM

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Work Order ID: 85361

85361

Parent Item: D206-642-541

D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-3 Manufactured No

270 Each

8.0000 1 1

D3537-3

Wearpad

**

1 (SP) 12/08/01

Location

Loc Qty

Loc Code

FP002

85481✓

8

78836

2

81363

6

D3537-1 Manufactured No

270 Each

28.0000 9 9

D3537-1

Wearpad

**

9 (SP) 12/08/01

Location

Loc Qty

Loc Code

FP002

86238✓

28

81362

15

83254

1

83255

3

84091

9

AN960C10L * NAS1149C0332✓ Purchased No

85458✓

270 Each

0.0000 80 80

*AN960C10I *

washer

**

80 (SP) 12/08/01

AN960C416 * NAS1149C0463✓ Purchased No

122063✓

270 Each

0.0000 1 1

AN960C416

washer

**

1 (SP) 12/08/01

119097✓

Picklist Print

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Work Order ID: 85361

85361

Parent Item: D206-642-541

D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270

Each

1,040.000

2

2

D3672-1

Phenolic Washer

**

2

2P

12/08/01

Location

Loc Qty

Loc Code

ST060

1040

72229

4

76277

36

80369 ✓

500

83608

500

AN3C4A

Purchased

No

270

Each

1,262.000

80

80

AN3C4A

BOLT

**

80

2P

12/08/01

Location

Loc Qty

Loc Code

ST350

1262

120187

57

120521

28

120769

38

121205

900

121556

239

AN4C5A

Purchased

No

270

Each

195.0000

1

1

AN4C5A

BOLT

**

1

2P

12/08/01

Location

Loc Qty

Loc Code

ST355

195

112243

136

119017 ✓

59

Picklist Print

June-06-12 4:23:13 PM

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Work Order ID: 85361

85361

Parent Item: D206-642-541

D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 06/06/2012

Required Date: 15/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270

Each

65.0000

1 1

D2646

Aft Cap

**

12/08/01

Location

Loc Qty

Loc Code

FP002

85443✓

65

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

78018

1

79562

10

81974

38

D3413-1

Manufactured No

270

Each

69.0000

1 1

D3413-1

Ring

**

12/08/01

Location

Loc Qty

Loc Code

ST420

4

79233

4

ST464

65

76754

1

80224

4

83307

40

83867

20

87253✓



DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED

07.02.12

DEO ATTACHED

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

GENERAL NOTES:

- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- ALL HOLES DRILLED ON CENTERLINES.
- BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
- WELDING TO BE DONE PER DART QSI 004.
- FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
- DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

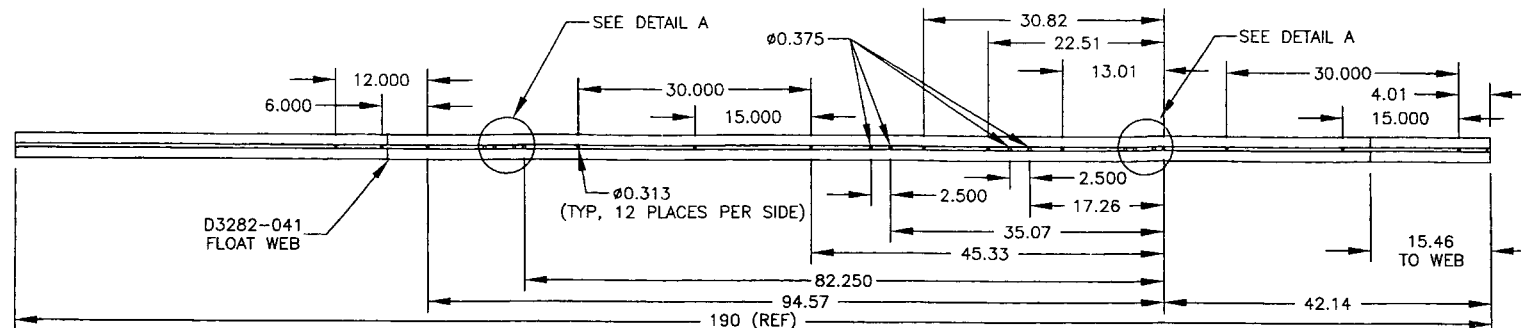
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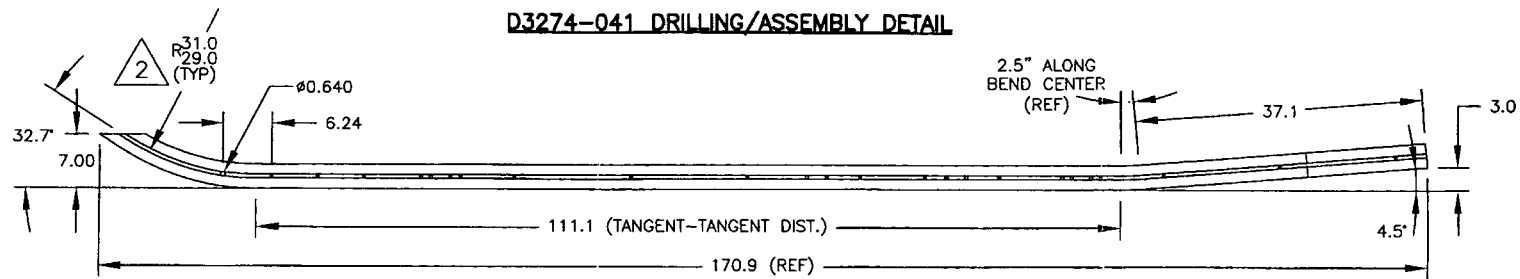
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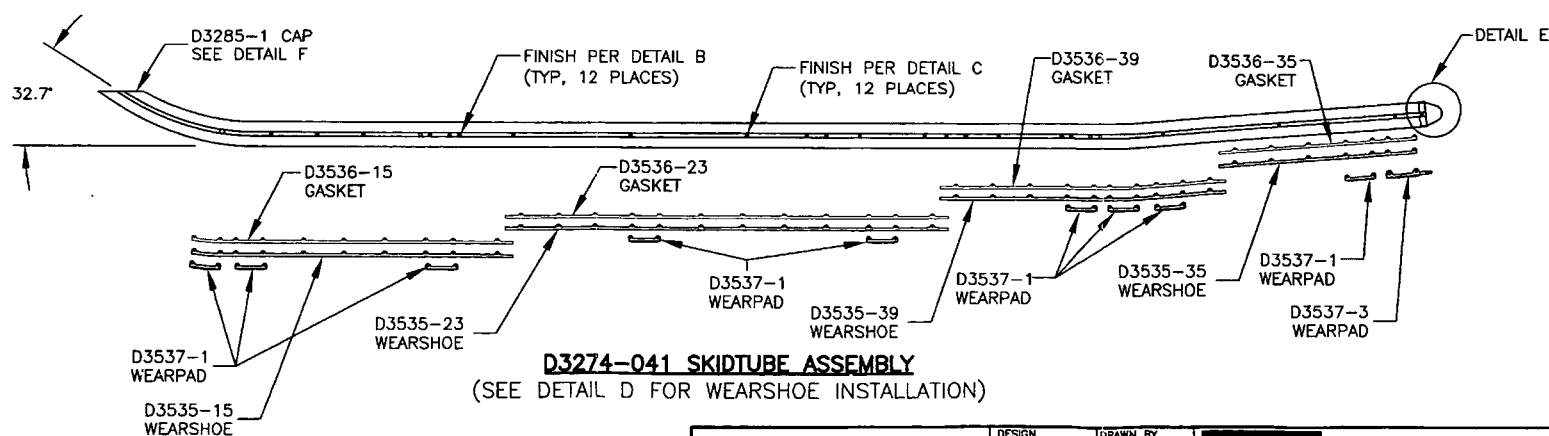
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D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL

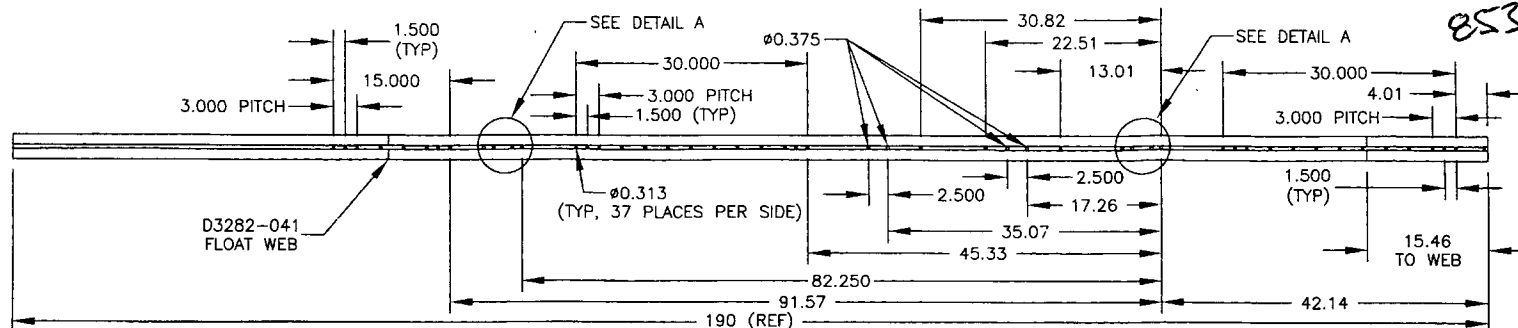


D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

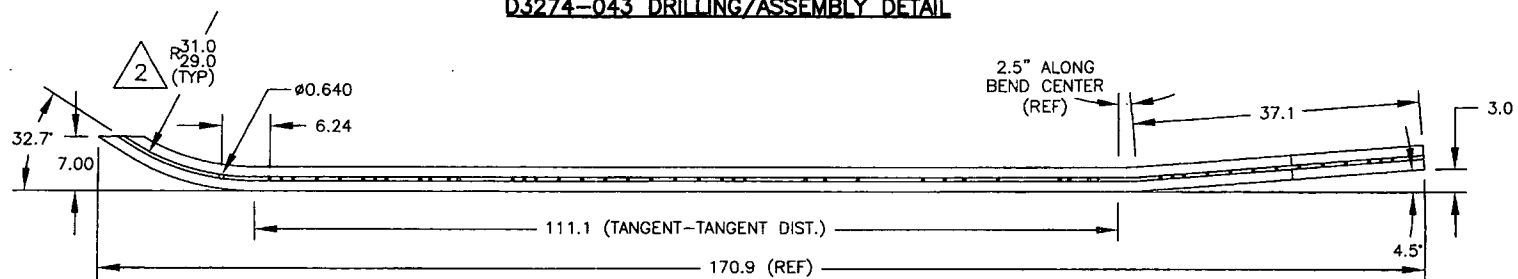
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DATE		06.12.19		DRAWING NO.		D3274	SHEET 2 OF 4
				TITLE		SKIDTUBE ASSEMBLY	SCALE 1:15

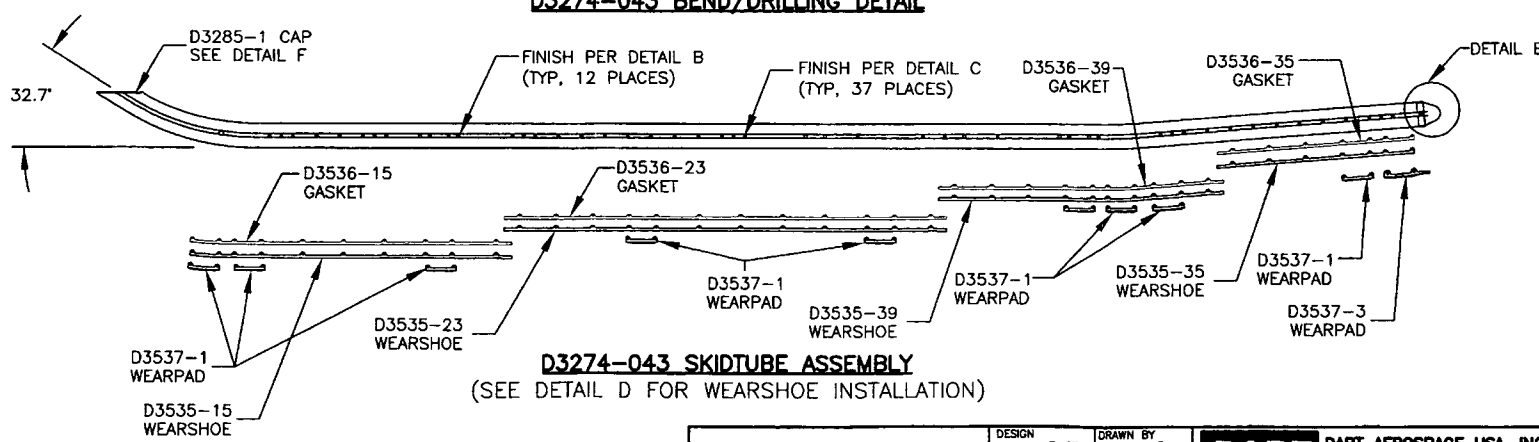
DEO ATTACHED



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY

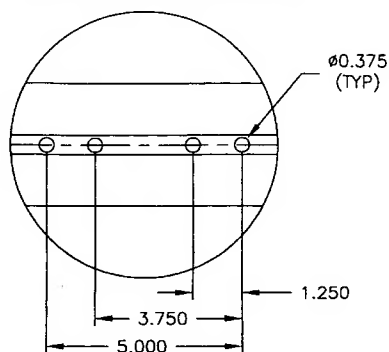
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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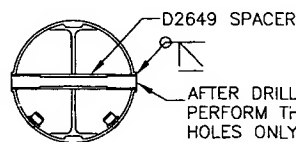
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DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY		
		REV. D SHEET 3 OF 4 SCALE 1:15		

DETAIL A: DRILL DETAIL

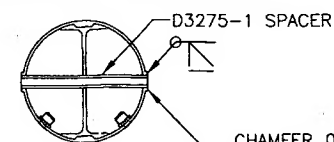


DETAIL B FOR Ø0.375 HOLES ONLY



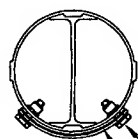
- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL C FOR Ø0.313 HOLES ONLY



CHAMFER 0.030x45°
(TYP)

DETAIL D



- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(78 PLACES)
GASKET/WEARSHOE/WEARPAD (REF)

DETAIL E

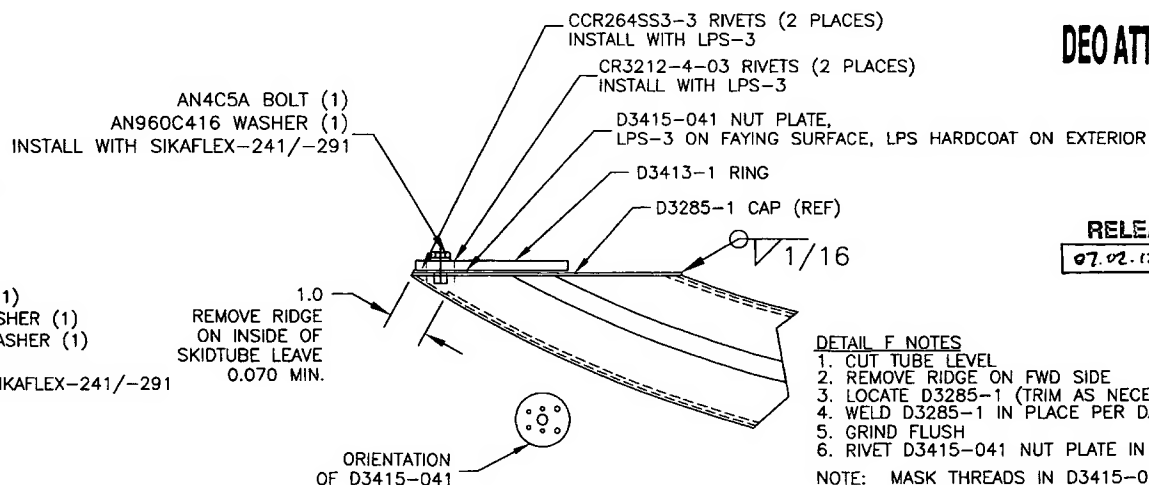
- AN3C4A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/-291
D2646 CAP
SEAL WITH
SIKAFLEX-241/291
ADHESIVE

Ø0.208 (2 PLACES)
DRILL PRIOR TO INSTALLING
D2646 CAP

BORE OUT END OF SKIDTUBE
TO 0.75 DEPTH AND 0.070 WALL

0.400

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

DEO ATTACHED

RELEASED

07.02.12

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		DATE	06.12.19	TITLE SKIDTUBE ASSEMBLY			

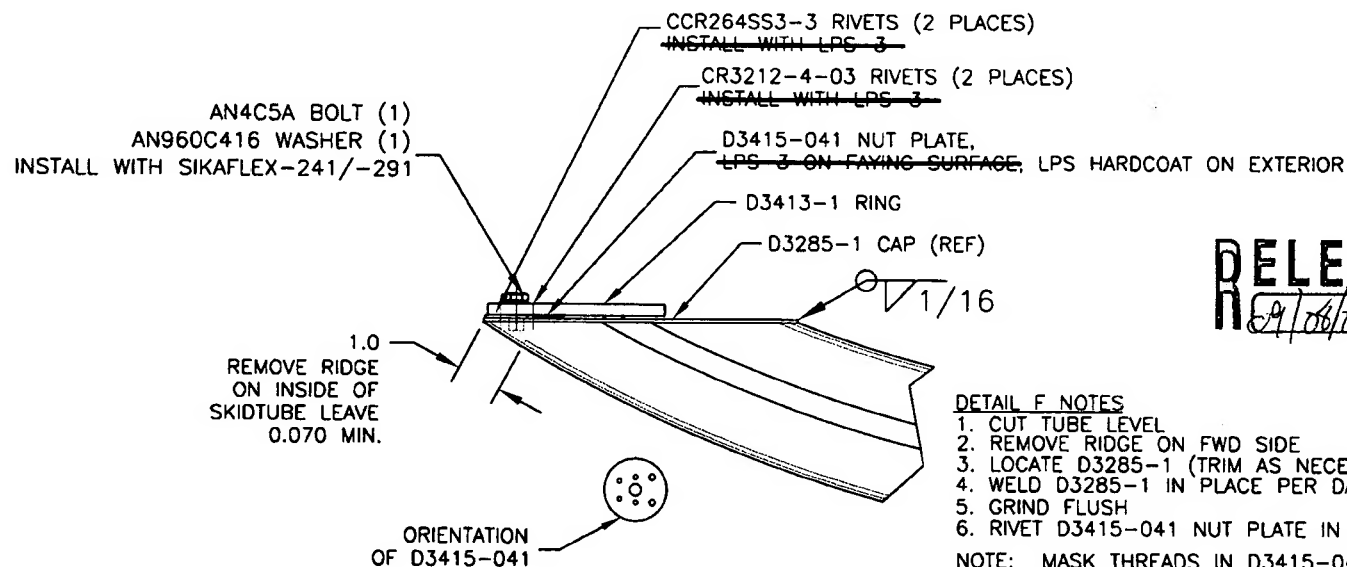
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN UP	CHECKED	MFG. APPR.	APPROVED	DE APPR.		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS-3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

NO. 299

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Bardley Elliott
Job #: B85361
Part #: 206-642-541
Description: Skid
Welding Process: Tig[☒] Mig[]
Base material: Alum.
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Penetration:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Fusion:	pass[<input checked="" type="checkbox"/>]	fail[]
Cracks:	pass[<input checked="" type="checkbox"/>]	fail[]
Overlap (cold lap)	pass[<input checked="" type="checkbox"/>]	fail[]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[]
Burn through:	pass[<input checked="" type="checkbox"/>]	fail[]

Qualifier David David Date of Test Coupon 12-07-26
Welder Bardley Elliott Date of Test Coupon 12-07-26

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

OPATHIC
VIA 211A 100